SCAFFOLDS Fruit Journal, Geneva, NY
Volume 24, No. 14
Update on Pest Management and Crop Development
June 29, 2015

COMING EVENTS

	43°F	50°F
Current DD* accumulations		
(Geneva 1/1-6/29):	1329	866
(Geneva 1/1-6/29/2014):	1334	856
(Geneva "Normal"):	1407	833
(Geneva 1/1-7/6, predicted):	1511	999
(Highland 1/1-6/29/15):	1638	1096

Upcoming Pest Events – Ranges (Normal +/- Std Dev):

American plum borer		
1st flight subsides.....	1200-1488	745-967
Apple maggot 1st catch	1249-1669	795-1075
Comstock mealybug		
1st adult catch.....	1308-1554	809-1015
Lesser appleworm		
1st flight subsides.....	992-1528	603-983
Obliquebanded leafroller		
summer larvae hatch	1038-1460	625-957
Oriental fruit moth		
2nd flight peak	1451-1969	925-1323

Pandemis leafroller
flight subsides 1428-1690 891-1099
Spotted tentiform leafminer
2nd flight peak 1382-1794 866-1196
*[all DDs Baskerville-Emin, B.E.]

Pest Focus
Geneva: Oriental Fruit Moth 2nd flight began 6/25.
Highland: Potato Leafhopper damage noted.
Pear Psylla nymphs hatching and oviposition increasing; sooty mold evident.

Insect model predictions for Highland/Geneva:
Obliquebanded Leafroller 50% hatch point @ 630 DD43, 90% hatch point @ 810 DD43 (currently @ 744 [H]/609 [G]). Larvae predicted to be causing damage to fruit in Highland; hatch in Geneva predicted to be half over.

TRAP CATCHES (Number/trap/day)
Geneva

	6/19	6/22	6/25	6/29
Redbanded Leafroller	0.1	1.2*	2.3	1.4
Spotted Tentiform LM	6.0	15.3	13.0	13.8
Oriental Fruit Moth	0.3	0.0	1.5*	4.4
Lesser Appleworm	0.0	0.0	0.0	0.0

Codling Moth	0.1	0.7	0.3	0.0
American Plum Borer	0.0	0.0	0.0	0.0
Lesser Peachtree Borer	0.9	0.5	1.3	0.4
Peachtree Borer	0.0	0.0	0.0	0.0
Dogwood Borer	2.1	5.3	8.2	4.8
Pandemis Leafroller	2.0	6.5	2.0	0.0
Obliquebanded Leafroller	1.1	0.8	2.7	0.6
Apple Maggot	-	-	-	0.0

Highland (Peter Jentsch)

	6/8	6/15	6/22	6/29
Redbanded Leafroller	0.0	0.0	0.0	0.0
Spotted Tentiform LM	5.3	39.9	35.4	31.3
Lesser Appleworm	0.0	0.0	0.4	0.0
Oriental Fruit Moth	1.6	0.4	0.0	0.9
Codling Moth	5.0	6.8	6.4	2.1
San Jose Scale	0.0	0.0	0.0	0.0
Dogwood Borer	2.4	1.6	0.9	1.7
Obliquebanded Leafroller	10.0	12.6	6.2	4.1

* = 1st capture

ORCHARD RADAR DIGEST

[Box Text: SUN SCREEN]

[H = Highland; G = Geneva]:

Roundheaded Appletree Borer

RAB Peak egglaying period roughly: June 19 to July 3 (H)/June 22 to July 8 (G).

Peak RAB egg hatch roughly: July 4 to July 23 (H)/July 7 to July 28 (G).

Dogwood Borer

Peak DWB egg hatch roughly: July 23 (H)/July 28 (G).

Codling Moth

Codling moth development as of June 29:

1st generation adult emergence at 73% (H)/67% (G) and 1st generation egg hatch at 20% (H)/ 12% (G).

1st generation 20% egg hatch expected: June 26 (H)/July 2 (G).

Lesser Appleworm

2nd LAW flight begins around: July 4 (H)/July 9 (G).

Obliquebanded Leafroller

Where waiting to sample late instar OBLR larvae to determine need for treatment, optimum sample date for late instar summer generation OBLR larvae: June 26 (H)/July 1 (G).

Oriental Fruit Moth

2nd generation, first treatment date, if needed: June 30 (H)/July 5 (G).

Redbanded Leafroller

Peak RBLR catch and approximate start of egg hatch: July 6 (H)/July 11 (G).

Spotted Tentiform Leafminer

Rough guess of when 2nd generation sap-feeding mines begin showing: June 28 (H)/July 3 (G).

Optimum first sample date for 2nd generation STLM sapfeeding mines is July 5 (H)/July 10 (G).

[Section: INSECTS]

FLY WAYS

(Art Agnello, Entomology, Geneva; ama4@cornell.edu)

[Box Text: ON THE BALL]

We are again at the time of year to expect the first appearance of apple maggot (AM) flies in wild apple trees and abandoned orchards, which begins first in eastern N.Y.; western N.Y. could be about a week later, depending on what kind of temperatures and rainfall we get over the next week or two. Crop scouts and consultants have used traps to monitor AM populations for many years, but this approach, useful as it is, nevertheless is not recommended in all cases. Some orchards have such high or such low AM populations that monitoring for them is not always time-efficient. That is, in some blocks, sprays are necessary every

season, often on a calendar basis; however, in some blocks the populations are so low that they are rarely needed at all. However, most commercial N.Y. orchards have moderate or variable pressure from this pest, so monitoring to determine when damaging numbers of them are present allows growers to apply only the number of sprays necessary to protect the fruit from infestation.

Sticky yellow panels were some of the first trpas for AM, and have been in use for over 50 years; these can be very helpful in determining when AM flies are present. The insects emerge from their hibernation sites in the soil from mid-June to early July in New York, and spend the first 7–10 days of their adult life feeding on substances such as aphid honeydew until they are sexually mature. Because honeydew is most likely to be found on foliage, and because the flies see the yellow panel as a "super leaf", they are naturally attracted to it during this early adult stage. A few of these panels hung in such an orchard can serve as an early warning device for growers if there is a likely AM emergence site nearby.

Many flies pass this period outside of the orchard, however, and then begin searching for fruit only when

they are ready to mate and lay eggs. That means that growers don't always have the advantage of this advance warning, in which case the catch of a single (sexually mature) fly indicates that a spray is necessary immediately to adequately protect the fruit. This can translate into an undesirable risk if the traps are not being checked daily and are used to signal an immediate response, something that's not always possible during a busy summer.

To regain this time advantage, more effective traps have been developed, which are in the form of a "super apple" — large, round, deep red, and often accompanied by the scent of a ripe apple — in an attempt to catch that first AM fly in the orchard. Because this kind of trap is so much more efficient at detecting AM flies when they are still at relatively low levels in the orchard, the traps can usually be checked twice a week to allow a 1–2-day response period (before spraying) after a catch is recorded, without incurring any risk to the fruit. Research done in Geneva over a number of years indicates that some of these traps work so well that it is possible to use a higher threshold than the old "1 fly and spray" guidelines recommended for the panel traps. Specifically, it has been found that sphere-type traps baited with a lure

that emits apple volatiles attract AM flies so efficiently that an insecticide cover spray is not required until a threshold of 5 flies per trap is reached.

The recommended practice is to hang three volatile-baited sphere traps in a 10- to 15-acre orchard, on the outside row facing the most probable direction of AM migration (towards woods or abandoned apple trees, or else on the south-facing side). Then, the traps are periodically checked to get a total number of flies caught; dividing this by 3 gives the average catch per trap, and a spray is advised when the result is 5 or more. Be sure you know how to distinguish AM flies from others that will be collected by the inviting-looking sphere. There are good photos for identifying the adults on the Apple Maggot IPM Fact Sheet (No. 102GFSTF-I8); check the web version at: http://www.nysipm.cornell.edu/factsheets/treefruit/pests/am/am.asp.

In home apple plantings, it is theoretically possible to use these traps to "trap out" local populations of AM flies by attracting any adult female in the tree's vicinity to the sticky surface of the red sphere before it can lay eggs in the fruit. Research done in Massachusetts suggests that this strategy can protect the fruit

moderately well if one trap is used for every 100–150 apples normally produced by the tree (i.e., a maximum of three to four traps per tree in most cases), a density that makes this strategy fairly impractical on the commercial level.

A variety of traps and lures are currently available from commercial suppliers; among them: permanent sphere traps made of wood or stiff plastic, disposable sphere traps made of flexible plastic, and sphere-plus-panel ("Ladd") traps. The disposable traps are cheaper than the others, of course, but only last one season. Ladd traps are very effective at catching flies, but are harder to keep clean, and performed no better than any other sphere trap in our field tests. Brush-on stickum is available to facilitate trap setup in the orchard. Apple volatile lures are available for use in combination with any of these traps. These tools are available from a number of orchard pest monitoring suppliers, among them:

- Gempler's Inc., 100 Countryside Dr., PO Box 328, Belleville, WI 53508; 1-800-382-8473, Fax, 1-800-551-1128 <http://www.gemplers.com/product/R16102/Disposable-Red-Sphere-Traps-Olson-Box-of-100>

- Great Lakes IPM, 10220 Church Rd. NE, Vestaburg, MI 48891; 800-235-0285, Fax 989-268-5311 <http://www.greatlakesipm.com/balltraps.html - redball>
- Ladd Research Industries Inc., 83 Holly Court, Williston, VT 05495; 800-451-3406, Fax 802-660-8859 <http://www.laddresearch.com/apple-maggot-fly-trap-kit>

By preparing now for the apple maggot season, you can simplify the decisions required to get your apples through the summer in good shape for harvest.

This material is based upon work supported by Smith Lever funds from the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

Scaffolds is published weekly from March to September by Cornell University -- NYS Agricultural Experiment Station (Geneva), and Ithaca -- with the assistance of Cornell Cooperative Extension. New York field reports welcomed. Send submissions by 2 p.m. Monday to:

Scaffolds Fruit Journal
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